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CENTER FOR LABOR MARKET STUDIES

Career Choice in a Changing Economy

Commonwealth of Massachusetts Michael S. Dukakis, Governor

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Career Choice in a Changing Economy

*Joan Stoia, Director, Office of Cooperative Education, University of Massachusetts, Amherst;
Research Associate, Center for Labor Market Studies, Northeastern University.*



Foreword

Information about employment prospects and labor market conditions play an integral role in successful career and guidance counseling activities. The Massachusetts Department of Employment and Training (D.E.T.) has a long record of conducting research on industry and occupational employment issues in Massachusetts. During the past five years, D.E.T. has stepped up its effort to make the results of our research more accessible and useful, particularly for career counseling and job placement professionals.

Career Choice in a Changing Economy is designed to help professionals who work with those in job and career transition make better choices about education, training, and employment alternatives. Particularly useful is the section on career expectations and job satisfaction that presents a set of factors that those making career choices should consider. *Career Choice* represents our continuing commitment to the support of practical research efforts to produce materials relevant to the information needs of a wide audience across the state.

James F. French
Commissioner,
Department of Employment and Training

Career Choice in a Changing Economy provides career counselors and their clients with answers to two very important questions: What is the nature of recent changes in the industrial and occupational structure of employment in the Massachusetts economy and what impact do these changes have on the way individuals locate satisfying and productive jobs in the Commonwealth?

The first section briefly summarizes the state's transition from that of traditional goods producer to knowledge and service producer, and draws connections between our strongest job generating industries and the skills, education and training required to work in them. It describes in straightforward terms the increasing importance of educational attainment in an economy where jobs are sharply divided by skills, wages, education and training prerequisites and long-term career potential. It stresses "staying in school after school," or, making a personal investment in education and training and the development of specific occupational skills. This is the means to success in an economy where the best jobs increasingly require either a two or four year post-secondary degree.

The second and third sections offer two useful career exploration strategies. The first emphasizes the role of personal work values in a successful job search, clarifying for ourselves what kinds of work would be most satisfying given our individual preferences, requirements and beliefs. The third section describes how up-to-date labor market information -- information about actual jobs, workers and local industries -- can be combined with more traditional sources of career information to help job seekers investigate, identify and evaluate opportunities against personal and objective standards. Each section is designed to stand alone and

offers career counselors maximum flexibility in using the material with their clients.

Most career services concentrate on preparing individuals for the job search or on responding to immediate job vacancies. The long-range success of these services, however, depends on how adept counseling professionals become at helping their clients understand and successfully navigate a changing industrial and occupational environment.

Industrial Change and Job Growth in Massachusetts

Over the past fifteen years, Massachusetts has been transformed from one of the most economically depressed of all the industrialized states to one of the most prosperous. Our unemployment rate, in the double digits during the recession of the mid-seventies, has fallen dramatically to the point where, at 3.8 percent in 1985, we arrived at what experts describe as essentially "a full employment economy." Our state maintained this full employment status through 1988, due in large measure to continued job growth and a slowing in the expansion rate of the state labor force.

The economic recovery in Massachusetts has been decidedly good news for all its citizens. The state economy expanded by 718,200 new jobs or 30 percent between 1975 and 1987. Virtually every subgroup of the Massachusetts labor force, including females, minorities and youth, has reaped the benefits of job growth in the state. However, the shifts that have taken place in the structure of Massachusetts industries since 1975 have created an entirely new occupational landscape for the eighties and nineties. A fundamentally different set of occupational opportunities awaits the entrants to

today's job market than faced job seekers just ten or fifteen years ago.

Several major changes in the structure of industries and employment in Massachusetts since 1975, include:

- o dramatic growth in the service sector, a diverse set of industries that includes services to business, such as accounting, data processing, educational, and health services;

- o emergence of new "high technology" industries, which produce computers and related electronic equipment, sophisticated instruments, chemicals, and advanced machinery;

- o strong gains in the construction industry, spurred by rapid increases in the number of new households and more recently, spending on federal and state highway, bridge, and environmental construction projects;

- o continued growth in retail trade as disposable incomes in Massachusetts grew much more rapidly than the national average;

- o expansion in the finance, insurance, and real estate industries, brought about by factors such as government deregulation of banking, increasing consumer credit and construction industry expansion;

- o decline in the manufacture of durable and nondurable goods, due in part to the Federal Reserve Bank's "strong dollar policies," changing consumer tastes, and competition from abroad.

Between 1975 and 1980, eight out of every ten new jobs created in Massachusetts were generated by either manufacturing or services. By 1980, one-third of all manufacturing workers in the state were employed in high technology industries. Much of the growth in those industries offset the enormous job losses in traditional

manufacturing occurring in the first half of the 1970s. During the 1980s, the burgeoning service sector displaced manufacturing as the largest source of new employment opportunities in the state. By 1985, more than one in four Massachusetts workers were employed in service industries.

These sweeping changes have substantially altered the human resource requirements of the state economy. In the shift from a traditional manufacturing base toward services and high technology manufacturing, substantial changes have occurred in the education and skill levels required by Massachusetts employers.

Computer programming and data processing, social and health services, financial and legal services, and other sophisticated service providers also require large numbers of college-trained individuals. High technology industries (such as computing and communications equipment, electronic components and accessories, defense, and space vehicles, and optical instruments) employ a higher proportion of managerial, technical, and professional employees than traditional manufacturing. The best jobs in these areas increasingly require a two- or four-year degree.

Much of the recent job growth in Massachusetts, then, has been in what economists call the "college labor market" -- professional, technical, and managerial opportunities requiring two or more years of college.

Staying in School After School

One consequence of the shift from a manufacturing-based economy to services and technology has been a radical change in job content. The occupations expected to show the most rapid rate of growth in Massachusetts through the next decade are

listed in Table 1. As Table 1 illustrates, many of the fastest growing occupations require math skills and analytical ability. Most require the ability to communicate effectively both orally and in writing. Beyond the need for improved basic skills, however, is that the majority of these growth occupations require the kind of preparation provided by either a four-year college education, other postsecondary training, or occupational education provided at the secondary school level.

Table 1:
Fastest Growing Jobs 1986 to 2000

	Percent Change
Legal Assistants/Paralegals	103.7
Medial Assistants	90.4
Physical Therapists	87.5
Physical and Corrective Therapy Assistants	81.6
Computer Service Technicians	80.4
Home Health Aides	80.1
Computer Systems Analysts	75.6
Medical Records Technicians	75.0
Employment Interviewers	71.3
Computer Programmers	69.9
Radiological Technicians	64.7
Dental Hygienists	62.6
Physician Assistants	56.7
Occupational Therapists	52.2

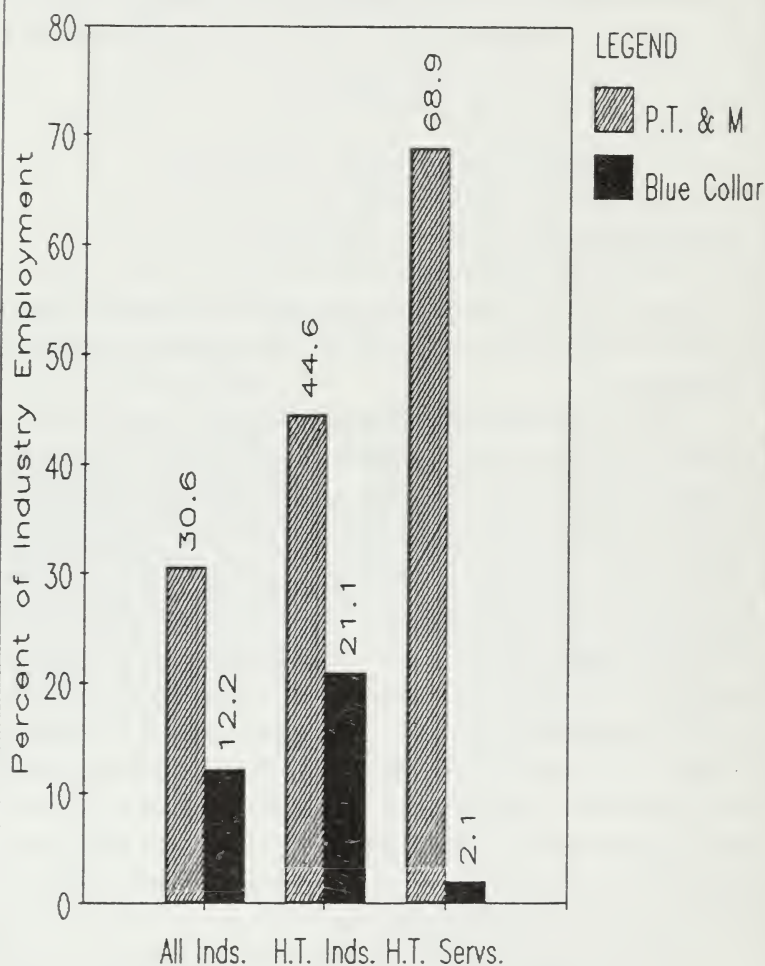
Across the board, the proportion of occupations requiring a college degree has risen dramatically in relation to the state's total workforce. Between 1983 and 1987, professional, technical, and managerial occupations accounted for almost one-half of all new

jobs created in the state. The employment profiles of high technology manufacturing and service firms, illustrated in Chart 1, provide striking examples of this emergence of industries that are intensive users of college-educated manpower. These data reveal that 35 percent of the workforce in a typical high technology manufacturing firm is employed in technical and professional categories. An additional 9 percent of the jobs are managerial. Among high technology service firms, such as computer and data processing, nearly 60 percent of all jobs are professional or technical. An additional 11 percent of the workforce is employed in managerial titles. Thus about 70 percent of all high technology service sector jobs can be considered to be in the college labor market. Continued expansion in the service and high technology areas and the rapid transfer of technology to other sectors of the economy will require a workforce with higher levels of educational attainment.

As a number of economists point out, service industries also generate thousands of jobs but at the low end of both the skill and wage scale. These economists argue that the restructuring of the Massachusetts economy has created a situation of extremes, where large numbers of opportunities exist at either end of the skill and wage spectrum, but where the middle group formerly occupied by traditional manufacturing has failed to generate many new job opportunities. The loss of these jobs has had a profoundly negative effect on the employment and earnings of persons who lack sufficient education to qualify for higher skilled, better paying jobs, particularly for those with poor basic skills and low levels of educational attainment.

When traditional manufacturing offered a large share of job opportunities for these people they had

Percentage of Professional, Technical and Managerial and of Blue Collar Occupations Employed in All Industries and in High Technology Industries



access to jobs providing advancement and incomes that could support a relatively good quality of life for those who lacked a formal high school education. Declines in industries employing blue collar workers and the shift of production jobs to foreign countries have meant reduced earnings for this group. A look at the earnings and unemployment rates among young men 20-29 between 1979-1986 illustrates the grave nature of these changes. In 1979, the average male high school graduate or high school dropout earned \$16,687 or \$11,684 a year, respectively. By 1986, the average wage for those who completed high school fell by nearly \$3,000. For dropouts, the average wage fell to \$8,545 -- a decline of nearly 27 percent.

By contrast, the employment and earnings status of college graduates has not declined over the past decade. Between 1979-1986, the mean real earnings of male college graduates between 20-29, for example, increased slightly by 3.1 percent, to \$21,543 per year. The earnings of women in this age group, while still behind those of their male counterparts, increased by 16.8 percent. Recent estimates suggest that the unemployment rate among college graduates in Massachusetts is in the 1 or 2 percent range, while unemployment among high school dropouts remains in the 8 to 10 percent range.

The implications of this change for those entering the job market are clear. Education and training make a critical difference, especially in Massachusetts, in occupational attainment, earnings potential, and quality of life. The relatively well paying jobs in traditional manufacturing that offered opportunity to high school graduates, and even high school dropouts, have declined sharply. A large proportion of all new jobs now being created are in

occupations that require postsecondary education. Other growth fields, while not requiring a college degree, will increasingly demand some kind of formal postsecondary education or training at the entry level. We have seen how services and high technology became the principal job generators in Massachusetts. If as expected, these sectors continue to be the mainstays of the state economy, workers with the necessary education and training will be the major beneficiaries. Those without will be at a severe disadvantage in a labor market that increasingly rewards investment in human capital.

Expectations and Job Satisfaction

Work is one of the most important elements in our lives. More than a means to obtain basic necessities or a way to fill time, work has a profound effect on who we are, how others see us, and how we see ourselves. Research on the function of work reveals that much of our emotional and physical health, the success of our social relationships, our sense and use of time, our prestige and status are derived from the kind of work we do. Satisfying, enjoyable work actually helps us live longer, healthier lives. Work provides us with much of our identity. Our occupations often place us in context and provide the reference point by which others know us: "I am a social worker," "I am an electrician," "She's an accountant." The majority of us would prefer work that is challenging and worthwhile; whether these expectations are met depends to a great extent on the kinds of career and occupational choices we make.

Much of the source material on job satisfaction approaches the subject from the other side -- worker dissatisfaction. Ironically, most people know more

about what they do not like than what they do like about their jobs. It is no surprise that workers cite constant or coercive supervision, lack of variety, monotony, meaningless tasks, and isolation as the primary causes of dissatisfaction on the job. Job seekers and job changers have the opportunity to avoid these pitfalls by basing their occupational choices on the factors they feel constitute a good job.

Finding a job that is "right" for us is essentially a three-stage process. Career counseling and assessment can help job seekers identify some of their skills, interests, and aptitudes. Publications such as *What Color Is Your Parachute?* (Bolles), *Where Do I Go from Here With My Life?* (Crystal and Bolles), and interest inventories like John Holland's "Self-Directed Search," and the Harrington-O'Shea "Career Decision-Making System," can be used either in conjunction with professional advising or alone to help an individual develop goals, clarify interests and abilities, and prepare the necessary tools for the job search. The Department of Employment and Training and many institutions in the public higher education system make these counseling services and reference materials available to the general public.

Based on the results of this assessment, the job seeker next develops a set of personal criteria to test and evaluate occupations and employment opportunities. The third step involves using occupational and labor market information to identify a set of interesting occupations and the places where they are most likely to be found.

A number of theories about job satisfaction derive from a practical application of Abraham Maslow's "hierarchy of needs." Maslow identified four stages which he called (1) physiological requirements

(hunger, thirst, and shelter), (2) companionship and affection, (3) self-esteem and esteem of others and (4) self-actualization. Simply stated, once a job satisfies our most immediate need, it won't be long before we expect more out of it. For example, most of us start out looking for a job because we need to make money. However, once our material need is addressed, we will become increasingly affected by the other aspects of the work. If a number of these aspects are disagreeable, the money we earn will no longer be enough to offset the disadvantages of the job. Most of the factors that determine job satisfaction fall under six major headings: management and supervision, compensation and advancement, work values, location and conditions, job content, and the work community.

1. **Management and Supervision:** Most of us want competent supervisors who treat us fairly and respect our ideas. Job seekers can learn a great deal about the quality of the supervision and overall management of a prospective work site simply by asking questions of the people who work there. Criteria that can be helpful in determining the management method we most prefer can include:

- o **Information Flow:** How well do the managers communicate with their employees? Do employees have enough information to do their jobs?
- o **Performance Appraisal:** Are there written job descriptions? Does the organization conduct routine

performance reviews? If so, how does the process work? How often does it take place?

- o **Delegation:** Do the managers delegate tasks effectively? Are employees encouraged to contribute their ideas and assume more responsibility if they demonstrate the ability?

2. **Compensation and Advancement:** Candidates should compare their salary offers to those offered by other firms to determine where a particular employer falls within the same industry. Where compensation appears lower than the average, other factors like fringe benefits, good working conditions, or promotional potential may offset the difference in dollar amounts. Job seekers need to consider whether the salary offered is adequate to cover expenses such as rent, food, utilities, clothes, transportation, and recreation and still leave something left over for emergencies and the future.

- o **Salaries, Raises, and Bonuses:** Are they equitable? How are raises determined? How frequent are they? Are there bonuses for top performers?
- o **Benefits:** What benefits are typically offered in this industry: health care, life insurance, retirement plan? How does this employer's package compare to others in the industry? What other benefits accrue to people who work here,

for example, day care, profit-sharing, van pools, or low-cost meals in the cafeteria?

- o **Advancement:** Is there a clearly defined career ladder? What are the policies with respect to promotion? Are employees promoted from within?

- o **Job Security:** How long is the probationary period for new employees? How frequent are layoffs? What are the policies regarding layoff and recall?

3. **Work Values:** Work values are the beliefs we hold about work. They are commonly reflected in the things we say about our jobs. Cliches like "The customer is always right," "A full day's work for a full day's pay," "My family comes before the job," and "Always look out for number one," actually reveal important attitudes about work. When selecting an occupation, it is important to choose one that is compatible with our values, attitudes, and beliefs. Someone who believes, for example, that the customer *is* always right will generally be happier working in retail sales than someone who is less service-oriented. A person who places a strong value on family life may find that value in conflict with an occupation that requires frequent overtime or overnight travel.

Given that we often "become" what we do, our occupation will probably influence the kind of business ethics we acquire, the kind of life-style we adopt, our attitude toward business associates and clients, and their attitude toward us. Asking

friends or contacts in a similar line of work, interviewing practitioners about the positive and negative aspects of the occupation, reading articles in career magazines, and visiting several establishments where the work is done can provide important information. Cooperative education placements, internships, and other "tryout" positions offer the opportunity to learn about the occupation from the inside before making a long-term commitment. Job seekers should use this information to answer questions like "How do other people view workers in this occupation?" "Is this the way I want to be known to others?" and "Does this work reflect my personal goals and philosophy?" Asking important questions *before* accepting a position will minimize the likelihood of selecting an occupation or work place that is incompatible with our work values.

4. **Location and Conditions:** Because we spend about a third of our adult lives at work, the quality of the environment and the location of work are important considerations. Some of the most basic decisions involve whether to work inside or outdoors, to work alone or in a group, to be a leader or a follower. Job seekers need to evaluate things like commuting time and expense, parking, and access to public transportation. On-the-job factors include temperature, lighting, lifting, safety, adequate tools and supplies, and reliable equipment. The schedule, hours, and pace of the work should all be evaluated in light of personal likes and dislikes, family obligations, and energy levels. Given that noise, odors, caustic substances, and stress at work severely diminish job

satisfaction, it is important to determine the degree to which these are present.

Most work involves some stress, but some jobs are more hectic or physically challenging than others; for example, print journalism, advertising, hotel/restaurant management, emergency medical care, commodities trading, and transportation. The rewarding aspects of such work, however, are significant for those who can manage stress effectively. Stress comes from a variety of sources. In evaluating an occupation it is important to determine our own personal tolerance levels and whether the potential for stress comes from the nature of a particular occupation, the physical environment, the way the workplace is managed, or a conflict between the nature of the job and our own particular preferences and values.

5. **Job Content:** Workers from a cross-section of occupations cite having interesting work as more important than good pay or the opportunity for advancement. Occupations which allow job seekers to make the most of their background, training, and experience; to learn and apply new skills and solve new problems; to see the results of their efforts; and maintain some degree of control over the work process will ultimately be the most satisfying. People enjoy doing work which they see as important, and they derive ego satisfaction and prestige from doing things others see as equally important.

Students and other new entrants to the job market frequently use monetary compensation as their

primary criterion for selecting one occupational opportunity over another. While the prospect of a high income can be an effective motivator, the range and number of attractive occupations is so broad that job seekers would do well to research the actual content of several possible options before rejecting any occupation out of hand.

Conversely, jumping at an opportunity because it is there and offers good pay can be a costly mistake. Traditional female and youth-oriented occupations have frequently lacked the challenge, variety, independence, and creativity that are characteristic of the best jobs. As a result, women and young workers who lack information about available choices have been more likely to accept dead-end, revolving-door jobs. In some industries, particularly where the "baby boom" generation provided a ready source of replacement workers, entry-level jobs may have been designed without regard to substance and content. Now that the "baby boomers" have aged and moved on, some employers are beginning to take a fresh look at the issue of job content. Nevertheless, job seekers would be well advised to carefully examine the nature of the work in assessing the attractiveness of a particular occupation.

6. **The Work Community:** For many of us, work satisfies important affiliation needs. The people we work with provide us with emotional support, social activities, intellectual stimulation, and a feeling of belonging. Because certain jobs predetermine the kind of people we will be with all day at work, it is important for job seekers to

consider their own personality traits, temperament, and style when evaluating an occupation. Do I get along with others well? Can I compromise or subordinate personal priorities for the good of the group? Do I prefer solitude to constant interruption? Do I like supervising people and managing the flow of work, or do I prefer doing the actual tasks myself? Clients are important members of the work community and the degree of client or customer interaction required by an occupation can affect our satisfaction.

The relevance of each of these six criteria to job seekers depends upon factors like age, family commitments, and geographic mobility. Older workers, for example, tend to be more concerned with job security than younger ones; but younger workers cannot afford to ignore the long-term implications of their choices entirely. Few occupations, if any, will satisfy all our needs. Selecting an occupation therefore involves setting priorities and trading off less critical aspects of the work in favor of ones that seem more important at the time. The location of the work influences its practice; and even in the most prestigious occupations like law, psychiatry, medicine, and architecture, job satisfaction is dependent on factors in the workplace.

Learning About Occupational Opportunities

How do most of us learn about occupations and career paths? Where do we obtain most of the information we use to make important life decisions? Much of what individuals know about jobs and careers comes from family and friends. As the work of writers

like Studs Terkel in his book *Working* reveals, each worker has a rich and detailed story to tell about what he or she does for a living. While these stories make an important contribution to our knowledge about a particular occupation or industry, the number and kinds of occupations we can learn about from relatives and acquaintances is limited by the size of our circle of contacts. While anecdotal information gleaned from personal sources is important, it is only a small part of the vast body of knowledge at our disposal about people and jobs.

Information about workers and jobs is called "labor market information." The labor market is the place where labor and skills are exchanged in return for wages. Labor market information is derived from looking at key factors that contribute to the labor exchange, or employment, process.

When we hear economic terms like "labor market," most of us immediately think of statistics. Moreover, in the field of career counseling, we generally think about employment projections. Projections data are one example of labor market information, but they are by no means the best. Projections represent economists' "best guess" about what will happen to jobs in the future. The complexity of the world economy makes it increasingly difficult to rely on econometric models to provide ready-made answers. Economists find out about the future in the same way that the rest of us do. Therefore, we advise caution in the use of projections data for career counseling. Industry and occupational employment projections are best used in combination with information on historical employment developments and knowledge of the current employment situation.

There are, however, many kinds of quantitative information we can use to improve our understanding of the labor market. The most useful data are about what is happening with respect to jobs and the workforce right now. For instance, it is helpful to know the number of people who are available for work but cannot find jobs; the number of opportunities available within specific occupations in a given area; average starting salaries; and the number and kinds of jobs held by women and minorities, the young, and the elderly.

Labor market information can also be qualitative or interpretive in nature by describing the aspects of industries and occupations that are most relevant to job seekers. State and federal agencies charged with collecting and analyzing employment data are an invaluable source of information about the performance of the economy as a whole, certain key sectors, or individual industries. The Massachusetts Occupational Information Coordinating Committee (MOICC), for example, is part of a nationwide network of agencies charged with disseminating career and occupational information within their respective states. The Massachusetts Department of Employment and Training (D.E.T.) regularly collects information on a range of employment topics. Their Office of Field Research analyzes much of the data and issues reports on industry developments, wage levels, and the employment outlook for specific occupations. Contact information for these and other agencies is listed in the Appendix.

Information about specific occupations can be broken down into several major categories:

Job Descriptions: duties and responsibilities; typical tasks; relationship to other people; supervision; whether work is done individually or in teams, indoors

or outdoors; use of machines or other tools

Wages, Benefits, and Conditions: salary paid at the entry, middle, and top levels; insurances; sick leave policy; shift differentials and overtime pay; typical workday or workweek; vacations and time off

Qualifications: required skills, interests, or attributes; physical demands; education and licensing requirements; prior experience; geographic mobility

Advancement Opportunities: career paths; promotional requirements such as the time expected at each job level; geographic mobility requirements; prestige; pay increases; formal and on-the-job training

Education and Training: degree or certification requirements; length, cost, and location of education or training; in-service obligations.

Labor market information is:

- o aggregate data or interpretive material about the size and composition of the workforce, staffing patterns, number of employees and location of industries, employment trends and projections, wages and benefits, qualifications, education and training requirements, career paths, and occupational characteristics. For example, data published by the Department of Employment and Training about wages in the manufacturing industry in Massachusetts is labor market information; information about the salary offered at a particular manufacturing firm is not.

- o tied to specific geographic locations of varying size, from a state or larger area (such as the national level) to a local area where workers seek employment and employers generally recruit workers. Generally, a "labor market area" refers to the area within which workers may change jobs without changing residence.

Labor market information is not:

o job search information, which tells job seekers *how* to look for employment. Examples of job search information are books and articles about resume development and interview preparation, exercises in career goal clarification, skill inventories, and aptitude tests.

o placement information, which describes individual job seekers or specific job openings. Job postings listed with the state employment services or campus placement offices, job fairs, and want ads are examples of placement information.

Labor Market Information and Career Development

Career development and vocational education programs need labor market information to provide a balanced mix of services for their clients. A strong career service delivery system includes training for both counselors and students in how to research employment trends and interpret the local, regional, and national economic developments that affect their goals and activities. Descriptive information about prospective careers and the range of industrial settings where those careers are found can aid students' curriculum choices and job search activities.

Without detailed information about occupations and the performance of specific industries, career counseling services and placement offices present their clients with only part of the picture. One-to-one counseling, testing, resume-writing and interviewing workshops, and career libraries are essential services; but without timely information about occupations and industries, clients can be armed with an arsenal of job search skills and still not know where to look. In good

economic times, placement offices can rely on employers to generate large numbers of interviews for clients in a wide array of occupations. But without targetted job development efforts supported by timely, specific information about employment trends in relevant fields, these offices may find they are unable to place their clients in the most appropriate jobs -- often settling for less.

In the absence of good data and an understanding of where jobs are being generated, the number, range, and quality of occupational choices available to clients will be severely limited. Balanced and comprehensive career services for students or clients require that career counseling staff have ready access to both quantitative and qualitative information about the performance of labor markets in their community, state, or region.

Sources of Labor Market Information for Career Professionals

There are a number of useful sources of labor market information available today that guidance counselors, vocational educators, and placement personnel can use to design more effective service delivery systems and help their clients make better career decisions. State and federal agencies offer a number of resources that can be used in conjunction with each other to develop an effective vocational plan. Most career professionals are familiar with the national publications such as the *Standard Industrial Classification Manual*. The problem that career professionals report most often is getting students and clients to use them. By themselves, these resources are sometimes cumbersome and remote. The addition of

state and local information can bring the material to life for both staff and job seekers, and ultimately give them more of a sense of control over the job search and placement processes.

The Department of Employment and Training maintains a staff of economists that tracks the labor market situation in various regions of the state. Human resource professionals in Massachusetts should work with these individuals so that they may keep informed about labor market development relevant to their clients. To find out the name of your regional economist see: "Where to Find Occupational and Labor Market Information" at the end of the volume.

How To Evaluate an Occupation

Thus far we have emphasized the role of labor market information in informing students or job seekers about the range of occupational choices available to them. One of the most important uses of labor market information, however, is in evaluating specific occupations. What is the set of objective factors that are more important when considering a particular occupation or planning a career? After carefully examining these, how can we evaluate this information in light of personal traits and values? Finally, what are the associated costs and benefits?

In conducting our research on growth occupations in Massachusetts, we developed six criteria that job seekers can use to learn more about occupations and specific job openings. They are presented below as the questions which should be answered when evaluating any employment opportunity.

Job Content

What are the primary responsibilities of workers employed in this occupation? To what degree does it involve people, numbers, or things? How much contact is there with co-workers?

What are some examples of specific tasks?

What job titles are associated with this occupation across different industries?

What department(s) do people in this occupation work in? What are the working conditions like? Where is the work performed: inside, outdoors? What are the physical demands associated with this job: heavy lifting, desk work, travel? Are there hazards involved: stress, radiation, toxic substances, infectious agents?

What kinds of machines, tools, or materials do people in this occupation work with?

How long is the average work day? How many hours constitute a full-time work week?

How are workers supervised? Do people work independently or are they closely supervised?

Is this occupation undergoing significant change because of changes in the industry, the need for more specialization, or the introduction of new technology? Will there be more change in the immediate future?

What would be useful for entrants to know before choosing this occupation? Are there misconceptions about it that need to be clarified?

Industry Type

What industries are major employers of people in this occupation?

What kinds of jobs are dominant within these industries? Do they tend to be highly skilled, low skilled, or contain a variety of skill levels?

Are these industries experiencing employment growth or decline at this time? Are current prospects expected to change in the immediate future?

What types of establishments make up these industries: size, number of employees, product or service produced?

Salary and Benefits

Are workers in this occupation paid a weekly salary, an hourly rate, or on a commission basis?

What is the typical annual starting salary for this occupation? What is the top salary for this occupation?

How are raises given? How much time generally elapses between raises?

What kind of health, life, dental, disability, and retirement plans are offered? What is the typical vacation schedule?

Is overtime available? Is it mandatory or optional?

Occupational Outlook

What is the demand for this occupation? Is it expected to grow at a slow, average, or rapid rate? Is it expected to decline?

What factors influence demand?

Does the demand reflect new or replacement jobs for departing workers? How much turnover occurs in this occupation?

Hiring Requirements

How do firms recruit workers in this occupation?

What is the geographic scope of those recruitment efforts?

What are the minimum education and training requirements for a new hire at the entry level?

What skills, knowledge, and experience are required of new hires?

What personal traits are important for people in this occupation?

Are there licensing, certification, or registration requirements for entering or progressing within this occupation?

What materials are required of applicants: resume, portfolio, writing sample, other?

Career Mobility

Is this occupation part of a family of closely related jobs? Does it offer a career ladder for employees as they increase knowledge, skills, and seniority?

What is the job title at point of entry in this occupation?

What are the internal promotional titles in the career ladder?

What factors influence the progress of workers along this career path?

Is additional formal training or education required for advancement?

If the answer is yes, who generally pays for that training? Do firms offer tuition assistance? Are there in-house training programs?

What other factors influence occupational growth: ability to relocate, work shifts, extended hours?

The answers to many of these questions can be found in the labor market information sources produced by the Department of Employment and Training. Job

descriptions, recruitment literature published by individual firms, want ads, job postings, and interviews with personnel directors, recruiters, and practicing professionals can also offer insights into these areas.

Some of the categories are more important than others, depending upon the needs of the client group being served. The resource guide and work sheet provided on the following pages have been used successfully with college students, and can be adapted for use with other client groups.

Investing in Education

Preparation for most careers requires that job seekers invest time and money in appropriate education and training. At no other time in Massachusetts has a college degree or other formal training program played such an important role in determining one's economic success. Nevertheless, students and others planning to enter the labor market need to examine the costs associated with pursuing a degree, certificate, or other program. Costs include tuition, living expenses, books and fees, and certain "opportunity costs" like the wages which will be foregone during the training period. These combined costs make it extremely important for job seekers to select an occupation which is compatible with their aptitudes and interests, which is consistent with the degree or certification required, and which offers an appreciable return on the educational investment.

In order to gain access to jobs that possess desirable traits such as good pay, fringe benefits, and employment stability, workers increasingly must possess not only solid basic skills but also occupation-specific skills. In the past, occupation-specific skills were

frequently transmitted to workers through informal on-the-job training activities. However, as non-goods-producing industries now generate the overwhelming share of new jobs in the state, formal classroom training is supplementing on-the-job training as the primary way occupational skills are acquired.

In Massachusetts such occupational training is obtained through the state secondary school vocational education programs and at colleges and universities around the Commonwealth. Access to either one of these occupational preparation systems should substantially enhance the employment prospects of young men and women. But those who fail to gain access to occupational training will find themselves at a severe disadvantage in the high tech, high skill environment of the state economy.

Job Seeker's Resource Guide

To conduct a successful job search, begin by clarifying what you want to do and where you want to do it. The following outline can help you locate employment opportunities at any point in your career, whether you are seeking part-time work, a cooperative education placement, or a full-time job. Listed below are questions to ask about each occupation you are considering and some of the resources you can use to find the answers. Many of the resources are available at career planning and placement services and at the reference or government document desk at the public library.

Clarifying Questions

What are the characteristics of this occupation? What are the education and training requirements for this field?

What is the outlook for this occupation?

In what industry(ies) and kinds of establishments are jobs like this found?

Selected Resources (partial list)

- *Dictionary of Occupational Titles*
- *Guide to Occupational Exploration*
- *Massachusetts Occupational Outlook*
- *High Technology Careers*
- *Working Outside*
- *Exploring Careers in the Humanities*
- *Career Opportunities for Writers*
- *Peterson's Guides*
- *Business Week Careers* magazines
- *Massachusetts Occupational Outlook*
- *High Technology Careers*
- State and federal projections
- Articles on growth fields
- Business section of the manpower and national news magazines
- *The Job Guide*
- *Massachusetts Occupational Outlook*
- *High Technology Careers*

What are the names of establishments in the geographic area I prefer?

- State Occupational Information Coordinating Committee

- Department of Employment and Training Listings
- The Job Guide
- Hall's directories
- *The Boston Job Bank* (available for other cities as well)
- *Ward's Directory of 55,000 Largest U.S. Corporations*
- *New England Business* magazine
- Chamber of Commerce directories
- Telephone directories
- Professional associations
- Trade publications
- Job and trade fairs
- College placement/co-op offices

What is the typical starting salary?

- Department of Employment and Training wage reports
- College Placement Council surveys
- Classified ads

What kind of business
are these establishments
engaged in?

- *Thomas Register*
- *Moody's Manual*
- *Standard and Poor's*
- College placement and
co-op files

Are they hiring?

- Department of
Employment and
Training
- Business section of
newspapers
- Classified ads (as a
measure of growth and
hiring activity)
- Trade publications
- Job fairs
- College placement and
co-op listings

Whom do I contact for
more information and
an application?

- Personnel directors
(names often appear in
classified ads)
- Membership listings
of local human
resource professional
groups (local chapters
of ASTD, ASPA)
- Placement or co-op
offices
- Family contacts, friends

Job Search Work Sheet

Job or Occupational Area Desired:

Examples of Duties:

Outlook for this Field:

Types of Industries Where This Occupation Exists:

Geographic Location, Travel/Commuting and Housing Considerations:

Salary and Benefits offered compared to my needs:

List of Establishments Which Offer the Jobs I Want and Meet My Geographic Preferences and Salary Requirements:

**Best Person to Contact Within Those Establishments/
Application Procedure:**

Where to Find Labor Market and Occupational Information

1. Massachusetts Occupational Information Coordinating Committee (MOICC)

C.F. Hurley Building, 2nd Floor
Government Center
Boston, MA 02114
Marilyn Boyle, Bob Vinson
(617) 727-6718

2. Massachusetts Department of Employment and Training (DET)

Research and Policy Department
C.F. Hurley Building, 2nd Floor
Government Center
Boston, MA 02114
Occupation/Industry (617) 727-7428
Labor Area Research (617) 727-6530

Regional Economists

Western:	Paul Simpson	(617) 727-6718
Central:	Jeff Smith	(617) 727-6718
Northeast:	Bernie Burns	(617) 727-3471
Southeast:	Frank Cahill	(617) 727-6555
Boston:	Ed Kaznocha	(617) 727-6544

3. Bureau of Labor Statistics (BLS)

JFK Federal Building, Suite 1603
Sudbury Street
Boston, MA 02203
(617) 565-2327

4. Government Printing Office Bookstore

JFK Federal Building, Suite 1603
Sudbury Street
Boston, MA 02203
(617) 565-2488

5. Career and Learning Line (CALL)

Higher Education Information Center
Boston Public Library
Copley Square
Boston, MA 02116
Walk-in or phone:
Greater Boston: (617) 536-0200
Elsewhere: 1-800-442-1171







